

and authenticated collections in California, he sent most of his new species to more favored workers for description. Dr. Carpenter says of the species collected by Dr. Cooper: "The diagnoses . . . published in the Proc. Cal. Ac. N. S. . . . should be credited to the zealous zoölogist of the survey, rather than to the mere artist-in-words who endeavors to represent their forms to the reader." Dr. Cooper described a few species collected by other workers in the field, but of these there is no enumeration at hand.

Dr. Cooper was a man of noble character and kindly disposition. He was tall and slender, not very fluent in conversation unless the topic under discussion was one of special interest to him. Many of the younger students of zoölogy in California remember with gratitude his aid so freely given them in their studies. Since his death, besides extended notices in the daily papers, there have appeared a memorial by Wm. H. Dall in Science for August 15, and one by W. O. Emerson, together with a list of ornithological papers, in the current number of the Condor. The last is the Bulletin of the Cooper Ornithological Club and contained in its first issue, 1899, a much longer account of Dr. Cooper's life work. A partial list of his conchological papers will be found in Bulletin 4, California State Mining Bureau. The present portrait is from a photograph taken in 1865, and was sent to the writer by Mrs. Cooper, who still lives in Haywards.

WILLIAM J. RAYMOND.

*University of California, Oct. 15, 1902.*

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#### NOTICES OF NEW JAPANESE LAND SNAILS.

BY H. A. PILSBRY AND Y. HIRASE.

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Mr. Nakada, who collected so successfully in the Bonin Is. (Ogasawara-jima), has now gone into western Hondo, through the provinces Echizen and Kaga, and continuing northward will collect in Noto and Sado Island. Among many other interesting discoveries, he has found *Sphyradium edentulum* Drap. (new to eastern Asia), *Bifidaria plicidens* Bs. (described from India), magnificent specimens of *Eulota (Euhadra) senckenbergiana*, one of the finest helices in the world, and many other beautiful shells.

*Chloritis albolabris* Pilsbry & Hirase, n. sp.

Shell depressed, the alt. about half the diameter, but slightly convex above, several earlier whorls being coiled in a plane, the tip of the apex turning down; umbilicate, the width of umbilicus about one-fifth that of the shell, thin but moderately strong, greenish, somewhat russet tinted above. Surface dull, marked with low growth-wrinkles, and set with *rigid, short, black-brown, tapering bristles*, arranged in oblique lines as usual, but in part irregularly placed. On the latter part of the last whorl the bristles stand nearly a half mm. apart. Whorls  $4\frac{3}{4}$ , convex, slowly widening to the last, which is fully double the width of the preceding whorl, is well rounded at the periphery and beneath, and descends slowly in front. Suture deeply impressed. Aperture quite oblique, widely lunate, the peristome white, narrowly reflexed, thickened with a narrow rim within, the ends approaching.

Alt. 9.6, diam. 20 mm.

Alt. 9, diam. 18 mm.

Yaku-shima, Osumi. Types no. 83883 A. N. S. P., from no. 958 of Mr. Hirase's collection.

This fine *Chloritis* needs comparison with no other Japanese species. The wide umbilicus, stiff, dark-colored bristles, and thick white lip, are conspicuous features differentiating it from other forms. (*Albolabris*, white-lipped.)

*Eulota (Aegista) kobensis* var. *gotoensis* P. & H., n. var.

Much smaller than *kobensis*, with narrower umbilicus; whorls  $5\frac{1}{2}$ ; sculpture and color as in *kobensis*. Aperture more nearly circular, the lip thick and white, as in *kobensis*. Alt. 6.5, diam. 12 mm.

Goto, Iizen. Type no. 83877 A. N. S. P., from no. 969 of Mr. Hirase's collection.

*E. kobensis* (Schm. & Bttg.) has hitherto been known from Awaji, Setsu and Yamashiro, adjacent provinces, though the former is insular. The occurrence of a race far to the southwest is therefore interesting.

*Eulota (Plectotropis) omiensis* var. *echizenensis* P. & H., n. var.

Shell depressed, conic or low-conic above, convex beneath, umbilicate, the width of the umbilicus one-third the diameter of the shell; brown; surface nearly lusterless, sculptured with slight and

irregular growth-lines and bearing sparse triangular cuticular processes, nearly wanting in some individuals. Whorls 5 to  $5\frac{1}{3}$ , convex, the last angular at the periphery, the angle disappearing behind the outer lip, slowly descending below the angle of the preceding whorl. Aperture very oblique, rounded, about one-fourth of the circle excised by the preceding whorl. Peristome thin, expanded. \*

Alt. 4.5, diam. 7.3 mm.

Alt. 5, diam. 7 mm.

Arato, Echizen. Types no. 83879 A. N. S. P., from no. 752a of Mr. Hirase's collection.

This western race is distinguished from *omiensis* by its more conic, elevated spire, and sparser cuticular shreds.

*Eulota (Aegista?) intonsa* Pils. & Hirase, n. sp.

Shell depressed, somewhat lens-shaped, umbilicate, the umbilicus less than one-fourth the diam. of the shell; thin; light brown with some indistinct corneous streaks, and corneous around the umbilicus. Surface somewhat shining, rather roughly papillose-striate, the last whorl densely set with short, hair-like cuticular processes, in part rubbed off. Whorls 5 to  $5\frac{1}{2}$ , slowly widening, somewhat convex, the last whorl strongly angular at the periphery, much more convex below the angle than above, shortly descending in front. Aperture oblique, oval; peristome thin, the upper margin slightly expanded, outer and lower margins expanded and narrowly reflexed, the terminations converging, parietal wall covered with a thin varnish.

Alt. 6, diam. 12 mm.

Alt. 5.3, diam. 11.5 mm.

Suimura, Awa (Shikoku). Types no. 83378 A. N. S. P., from no. 960 of Mr. Hirase's collection.

A species with much the contour of *Plectotropis*, but more like *Aegista* in sculpture and texture, so that both of us are disposed to refer it to the latter group. It is quite unlike any Japanese species yet described. The aperture reminds one somewhat of *Trachia*. (*Intonsus*, unshaven).

*Pyramidula conica* Pils. & Hir., n. sp.

Shell umbilicate, conic, rather thin, dark purplish-brown, closely, finely and rather irregularly striate. Whorls  $4\frac{1}{2}$ , very convex, separated by a deep suture, the last rounded at the periphery and beneath.

Aperture oblique, rounded, about one-fourth of the circumference excised at the parietal wall by the preceding whorl; peristome simple and thin, the columellar margin a little dilated. Alt. 1.5, diam. 2.7 mm.

Suimura, Awa, Shikoku. Types no. 83884 A. N. S. P., from no. 961 of Mr. Hirase's collection.

This species is excessively similar to the common European *P. rupestris*, type of the genus *Pyramidula*. In fact, if found in the western Palæarctic area, it probably would not be separated more than as a subspecies. However, the whorls are more tubular, especially the last one. The Chinese *Pyr. orphana* (Heude) is also closely related, but comparison with a specimen received from Père Heude shows it to be perceptibly rougher and with the last whorl more depressed.

The species of the typical group of *Pyramidula* differ from those of the more widely distributed section *Gonyodiscus* in wanting regular rib-striæ. This is more constant than the degree of elevation, which varies widely in both groups. Some large forms, such as *Pyr. solitaria*, also want the ribbed sculpture. It has elsewhere been shown that the teeth and jaw of *P. rupestris* are like those of the ordinary discoidal species; so that Dr. von Moellendorff's hope that it will prove generically distinct does not seem likely to be realized.

*Macrochlamys kagaensis* Pils. & Hir., n. sp.

Shell very narrowly umbilicate, globose-depressed, thin, greenish-yellow. Surface very glossy and smooth, marked with faint growth-wrinkles, the inner whorl densely and finely engraved with spiral striæ, which are obsolete or nearly so on the last whorl. Whorls  $4\frac{1}{2}$ , rather rapidly increasing, the last about double the width of the preceding, rounded peripherally, convex beneath, impressed at the axis. Suture shallow, edged by a fine white line. Aperture slightly oblique, wide lunate, the peristome thin and simple, slightly dilated at the axial insertion. Alt. 9.5, diam. 15 mm.

Hakusan, Kaga. Types no. 83881 A. N. S. P., from no. 974 of Mr. Hirase's collection.

A fine large species, allied to *M. dulcis* Pils., but much more globose. *M. perfragilis* Pils., from Oshima, is very similar in form, but has an even smaller umbilicus and more oblique aperture, besides wanting the incised, clear-cut spirals on the inner whorls.

*Microcystina nuda* P. & H., n. sp.

Shell minute, imperforate or nearly so, depressed, yellowish, glossy and smooth. Whorls 4, slowly increasing, the last indistinctly and obtusely subangular at the periphery, above the middle; impressed around the axis. Aperture lunate, subvertical, the lip simple, acute, dilated at the axis, the columellar margin a little thickened. Alt. 1.2, diam. 2.6 mm.

Hakusan, Kaga. Types no. 83880 A. N. S. P., from no. 973 of Mr. Hirase's collection.

Apparently related to the smaller *M. sinapidium*, both belonging to Reinhardt's group *Discoconulus*. (*nudus*, naked).

*Kaliella kagaensis* Pils. & Hir., n. sp.

Shell subperforate, low-trochiform, yellowish and glossy. Surface marked with faint growth-lines, the second whorl delicately and very minutely costellate; base showing some faint spirals. Whorls 5, somewhat convex, slowly increasing, the last angular at the periphery, convex below. Aperture lunate, oblique, the peristome simple and thin, columellar margin subvertical, narrowly expanded. Alt. 2.4, diam. 3.2 mm.

Hakusan, Kaga. Types no. 83882 A. N. S. P., from no. 971 of Mr. Hirase's collection.

A shell almost identical in contour with *K. okiana*, but smooth and glossy, and a little larger.

*Kaliella gudei* Pils. & Hir., n. sp.

Shell large for the genus, perforate, conic, thin, pale yellowish, somewhat translucent, smooth except for slight, irregular growth-lines. The outlines of the spire are slightly convex, nearly straight, last whorl with a narrow, thread-like peripheral keel, which ascends the spire and is visible as a narrow border above the suture. Whorls 6 to  $6\frac{1}{2}$ , quite convex, the last convex above and below the keel, slightly impressed around the perforation. Aperture truncate-lunar, the lip simple, columellar margin dilated, reflexed. Alt. 5, diam. 6.2 mm.

Kayabe, Ojima. Types no. 81922 A. N. S. P., from no. 678 of Mr. Hirase's collection. Also Hakodate, Ojima. Mt. Moiwa, two miles from Sapporo, Ishikari (Paul Rowland); all in Yesso.

This is the largest Japanese species, and one of the largest of the

genus. It is related to *K. (?) ceratodes* Gude, but that is a much smaller and smoother shell. *K. gudei* was at one time identified with *H. labilis* and with *H. pupula* of Gould, both described from Hakodate, but Mr. G. K. Gude directed attention to its distinctness from these species.

CONTRIBUTIONS TOWARDS THE KNOWLEDGE OF THE MOLLUSCA OF  
MADAGASCAR.

BY C. F. ANCEY.

*Clavator Johnsoni* E. A. Smith.

Hab.: Central Madagascar (Humboldt).

*Clavator obtusatus* Gmelin.

Hab.: Fort Dauphin, S. Madagascar (F. Sikora). Also found at the northern end of the island (Alluaud).

*Clavator Humbloti* Anc.

Testa magna, imperforata, elongato-attenuata, solidula, epidermide fusco lutescente infra transverse et exiliter fusco multifasciata induta, sub epidermide alba, nitidula. Spira regulariter usque ad apicem attenuata, elongata, obtusa. Anfractus 9? (supremi fracti), regulariter crescentes, convexiusculi, sutura medioeri in ultimis minute et leviter subcrenulata discreti, longitudinaliter striis confertis incrementi exarati, in 5 inferis lineis spiralibus impressis magis distantibus decussati; ultimus elongatus, inferne attenuatus. Apertura subobliqua, basi leviter recedens, irregulariter oblongo-attenuata, superne angulata, basi ampliata, intus cœrulescens. Columella antice angulatum producta, intus contorto-subplicata, crassiuscula. Peristoma obtusum, supra columellam dilatatum et adnatum, marginibus distantibus, callo nitido basi præcipue conspicuo junctis.

Long. 95, diam.  $27\frac{1}{2}$ , alt. apert. 31 mill.

Hab.: Antankaratra Country (Humboldt).

This fine species appears to be allied to *Cl. Moreleti* Desh., but is much larger and is very distinct.

*Pachnodus rufoniger* Reeve.

Hab.: "Montagne d'Ambre," Diego Suarez; Antankaratra (Humboldt).